Day 363 **C Tier 10-a-day: Model Solutions**

1 Fractions of a group

A team plays 36 matches and wins 14 of them.
What fraction of the matches did the team win? Give your answer in its simplest form.

$\frac{14}{36}$

Divide top and bottom by 2: $\frac{7}{18}$

Answer: $\frac{7}{18}$

2 Subtraction

Work out 660 − 246.

660 − 246 = 414

Answer: 414

3 Probability with dice

A fair 10-sided dice numbered 1 to 10 is rolled.
Write down the probability of rolling
(a) a 4
(b) a 1

(a) 1 out of 10 numbers: $\frac{1}{10}$

(b) 1 out of 10 numbers: $\frac{1}{10}$

Answer: (a) $\frac{1}{10}$ **(b)** $\frac{1}{10}$

4 Solving equations

Solve $\frac{a}{6} = 8$

$\frac{a}{6}$ means a ÷ 6, so multiply both sides by 6

a = 8 × 6 = 48

Answer: a = 48

5 Ordering decimals

Write these numbers in order, starting with the smallest.
0.8, 0.9, 0.85, 0.75

Write each with the same number of decimal places
0.75, 0.80, 0.85, 0.90

Answer: 0.75, 0.8, 0.85, 0.9

6 Angles on a straight line

The diagram shows a straight line.
Work out the size of angle y.
The diagram is not drawn accurately.

Angles on a straight line add up to 180°
180 − 40 = 140

Answer: y = 140°

Day 363 **C Tier 10-a-day: Model Solutions**

7 Finding a missing value from the mean

The mean of four numbers is 7.
Three of the numbers are 7, 6 and 7.
Work out the other number.

Total of all the numbers: $7 \times 4 = 28$
Total of those given: $7 + 6 + 7 = 20$
$28 - 20 = 8$
Answer: 8

8 Coordinates

ABCD is a rectangle.
A is the point (1, 3), B is the point (1, 7) and C is the point (4, 7).
Write down the coordinates of D.

AB is vertical so D has the same y-coordinate as A: 3
BC is horizontal so D has the same x-coordinate as C: 4
Answer: (4, 3)

9 Prime numbers

Write down the prime number in this list.
11, 51, 33, 9

A prime number has exactly two factors, 1 and itself
$51 = 3 \times 17$
$33 = 3 \times 11$
$9 = 3 \times 3$
Answer: 11

10 Cost from area

A rectangular floor is 8 m long and 4 m wide.
Carpet costs £10 per m^2.
Work out the cost of covering the floor.

Area $= 8 \times 4 = 32\ m^2$
Cost $= 32 \times £10 = £320$
Answer: £320